



PATENT COOPERATION TREATY

PCT**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 10566 WO	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/FR2003/000066	International filing date (<i>day/month/year</i>) 10 janvier 2003 (10.01.2003)	Priority date (<i>day/month/year</i>) 10 janvier 2002 (10.01.2002)
International Patent Classification (IPC) or national classification and IPC H03H 11/34, H04B 1/58		
Applicant LABORATOIRE EUROPEEN ADSL LEACOM FASTNET		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 8 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

- I Basis of the report
- II Priority
- III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV Lack of unity of invention
- V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI Certain documents cited
- VII Certain defects in the international application
- VIII Certain observations on the international application

Date of submission of the demand 06 août 2003 (06.08.2003)	Date of completion of this report 16 April 2004 (16.04.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/FR2003/000066**L Basis of the report**

1. This report has been drawn on the basis of (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

 the international application as originally filed. the description, pages 1-16, as originally filed,
pages _____, filed with the demand,
pages _____, filed with the letter of _____,
pages _____, filed with the letter of _____. the claims, Nos. _____, as originally filed,
Nos. _____, as amended under Article 19,
Nos. _____, filed with the demand,
Nos. 1-10, filed with the letter of 13 January 2004 (13.01.2004),
Nos. _____, filed with the letter of _____. the drawings, sheets/fig 1/4-4/4, as originally filed,
sheets/fig _____, filed with the demand,
sheets/fig _____, filed with the letter of _____,
sheets/fig _____, filed with the letter of _____.

2. The amendments have resulted in the cancellation of:

 the description, pages _____
 the claims, Nos. _____
 the drawings, sheets/fig _____

3. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

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International Application No.
PCT/FR 03/00066

L Basis of the report

1. This report has been drawn on the basis of (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

The new claim 1 is based on the original claim 1 and page 15, line 20 to page 16, line 6.

INTERNATIONAL PRELIMINARY EXAMINATION REPORTInternational Application No.
PCT/FR 03/00066**Supplemental Box**
(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: III.1

Claim 4

This claim is worded in such a way that the subject matter thereof is defined in terms of the result to be achieved, i.e. the transfer function of an order no lower than 4. The claimed subject matter must be defined in more concrete terms, i.e. in terms of the manner in which the result can be achieved.

Claim 7

This claim is worded in such a way that the subject matter thereof (the inductor values) is defined in terms of the result to be achieved, i.e. a voltage drop before the ASIC active elements so that the voltage across the terminals of each active element is less than 1 volt. It should be noted that, in the absence of an input voltage and a frequency of operation, this definition is technically meaningless.

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	YES
	Claims	1-3, 5, 6
Inventive step (IS)	Claims	YES
	Claims	8-10
Industrial applicability (IA)	Claims	1-10
	Claims	NO

2. Citations and explanations

Reference is made to the following documents:

D1: EP-A-1 005 209 (WESTELL TECHNOLOGIES INC)
31 May 2000 (2000-05-31);

D2: EP-A-0 967 735 (CIT ALCATEL) 29 December 1999
(1999-12-29).

Claim 1

Document D2 describes (see figure 2) a lowpass filtering device that is like the one claimed except that, in said document, it is not explicitly mentioned that transistors T1 and T2 are each in the form of an ASIC, i.e. in the form of an application specific integrated circuit.

It should be noted that the following expression (as interpreted in accordance with the observations relating to clarity hereinafter) does not differentiate the subject matter of the claim from that of D2:

"and in that

current that is insufficient to power the first active element and the second active element

circulates on the telephone line when the telephone is on the hook; and current that is sufficient to power the first active element and the second active element circulates on the telephone line when the telephone is off the hook."

Transistors T1 and T2 operate in accordance with the variation dI/dt (see D2, column 5, lines 25 to 50). It follows that the current can be insufficient to power the transistors when the telephone is on the hook and can be sufficient to power the transistors when the telephone is off the hook. As a result, this expression does not differentiate the subject matter of the claim from the subject matter of document D2.

Based on a strict interpretation of the term "ASIC", a transistor constitutes such an application specific integrated circuit and the claim lacks novelty (see column 5, line 21, which discloses that the transistors are FETs, which are the kind generally used for integration).

Even if it is conceded that an ASIC is often more complex, the claim does not involve an inventive step (see the PCT Guidelines, IV-8.3). In the present case, the only advantage of the difference between the known prior art and the invention as claimed is that a specific technique is used to produce an amplifier that has the same features as the transistor in D2. Implementation in the form of an ASIC is merely one of a plurality of obvious options that a person skilled in the art seeking to solve the stated problem might select, depending on each particular case, and without an inventive step being involved.

It should be noted that the implementation of the circuit in the form of an ASIC as shown in figure 4 of the

application does not involve an inventive step either. The use of this kind of circuit is well known to arrive at a desired characteristic impedance (see page 6 of the description, last paragraph and also D1, figure 13) and the implementation thereof in the form of an ASIC is an obvious option, especially in view of the greater flexibility provided by this kind of circuit.

Claims 2 and 3

The claimed embodiments are not novel. The circuit of D2 (figure 2) has isolation capacitors as claimed.

Claims 5 and 6

The claimed embodiments are not novel. Active circuits T1, T2, etc. in D2 (figure 2) are current sources that are controlled by the voltage across their terminals and are powered by a current circulating on the telephone line when the subscriber's telephone is off the hook, as claimed.

Claims 8 and 9

The use of a passive correction unit merely corresponds to impedance matching and is not inventive.

Claim 10

The fact that a lowpass filter can be used on both the telephone exchange side and the subscriber side is disclosed in document D1 (see figure 1). As a result, this general method cannot give rise to an inventive step.

Certain defects in the international application

Contrary to the requirements of PCT Rule 5.1(a)(ii), the description does not indicate the relevant prior art disclosed in documents D1 and D2, nor does it cite said documents.

Observations with respect to inventiveness

The subject matter relating to the variable behaviour of the ASIC depending on the conditions of operation should have been expressed more clearly and accurately to produce an independent claim that fulfils the requirements set forth in PCT Article 33(1) as well as the requirements set forth in PCT Article 6:

- according to page 15, lines 27 and 28, if the two ASICs are powered by a current circulating on the telephone line when the telephone is on the hook, they can be considered to be equivalent to short circuits and the filtering device thus constitutes a simple second-order filter.
- according to page 15, line 34 to page 16, line 5, if the two ASICs are powered by a current circulating on the telephone line when the telephone is off the hook, the various active components of the ASICs can be polarised so that the filtering device will constitute a sixth-order lowpass filter.

The responsibility of wording a definitive claim to be submitted to the regional authorities is that of the applicant.

Certain observations on the international application**Claim 1**

According to the preamble, the claim relates to a lowpass filtering device used on a telephone line, i.e. the telephone line is not part of the lowpass filtering device.

The following passage added to the new claim 1 is not clear because it appears that the telephone line is part of the claimed subject matter:

"and in that

current that is insufficient to power the first active element and the second active element circulates on the telephone line when the telephone is on the hook; and current that is sufficient to power the first active element and the second active element circulates on the telephone line when the telephone is off the hook."

It should be noted that the above passage relates only to the circulating current, not the components of the filtering device.